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ABSTRACT

As part of an investigation of effective first grade reading group instruction, this report analyzes the relationships between certain teacher behaviors and the contexts in which they occur. Behaviors of interest discussed are those describing teacher selection of and feedback to response opportunities, as well as the overall level of response opportunities. The contexts examined are: slow-paced questioning and answering without individual materials provided to students, workbook or worksheet activities, and reading of new material from the basal textbooks. Results presented indicate moderately high stability across the contexts examined for most groups of variables, although some were more stable than others. (AEA)

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Context Effects and Stability of Teacher Behaviors in an Experimental Study of First Grade Reading Group Instruction

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Context Effects and Stability of Teacher Behaviors in an Experimental Study of First Grade Reading Group Instruction

This paper presents data from the First Grade Reading Group Study, conducted by the Correlates of Effective Teaching Program (COET) at The Research and Development Center for Teacher Education at The University of Texas at Austin. This study yielded a large amount of data related to instruction of young children in small groups. This paper will give only a part of the results from the entire study: those which address the questions of stability and variability across different lesson contexts of several categories of teacher-student interaction.

The highlights of these results are given in this paper. More detailed information will be given in a technical report which will be released from the R&D Center later this year (Note 1).

Before presenting the results, the background of the study as a whole and the rationale for the analyses reported here will be discussed.

Background of the Study

The First Grade Reading Group Study was an experimental effort developed from the integration of research and knowledge about how young children function in a classroom, especially within the small group format. The most important sources of the ideas in the study were the Texas Teacher Effectiveness Study (Brophy and Evertson, Note 2); program development work done at the Southwest Educational

Development Laboratory (1973) and the work of Marion Blank (1973) on dealing with incorrect answers.

The result of the integration of these sources was an instructional model consisting of 22 specific principles believed to promote effective teaching of young children in small groups. The complete model is presented as it applies to first grade reading groups in Brophy, Anderson, Greenhalgh, Ogden, and Selig (Note 3).

The instructional model was presented to ten first grade teachers who agreed to implement the principles in their reading group instruction. Ten other teachers served as a control group. All teachers were observed teaching their reading groups 15 to 20 times during the year. (An additional treatment group of seven teachers received the model but was not observed. These achievement scores were compared to those from the other groups to see if treatment without observation influenced end-of-year test scores).

The principles in the instructional model covered a wide range of teacher behaviors, and were concerned with the ways in which teachers managed the group as a whole, as well as the ways in which teachers interacted with individuals in the group. Data related to the latter group of principles only are discussed in this paper. These principles are given below (the numbers correspond to those in the model):

7. Work with individual children in practicing skills, and provide feedback to them regarding their answers. Minimize group responses.

8. Call on children in a systematic fashion, such as going in order around the group.

10. Minimize use of volunteering, especially during presentation and practice of essential skills, to insure that all students have a chance to interact with the teacher and receive feedback.

11. Discourage call outs.

17.--19. When students fail to respond or answer incorrectly, either give the answer to the child or provide clues (simplifying questions) to help the student arrive at the answer. Do not ask other students for the answer.

20. Correct answers should be acknowledged and the teacher should make sure that all students heard them.

21.--22. Praise and criticism should be used in moderation and should be as specific as possible.

Other aspects of teacher-student interactions were also measured, even though they did not relate directly to the principles. These were types of questions, types of answers, other types of feedback, and types of behavioral corrections. These are not addressed in this paper, but are discussed in the technical reports (Notes 1 and 5).

In order to measure use of these principles, a coding system was used which described the following behaviors for each academic interaction between the teacher and an individual student (Brophy et al., Note 4):

1. Selection. (How did the teacher call on the student?)

2. Question. (What type of question was asked?)

3. Answer. (Was the student correct or incorrect? Did he/she fail to make a response or say "I don't know"?)

4. Feedback. (How did the teacher respond to the students' answer? Was there praise or criticism? If the answer was incorrect, did the teacher attempt to simplify the question, and, if so, was this attempt successful?)

Data describing each component of such interactions were analyzed to address the two primary questions of the study:

1. How did the behaviors described in the instructional model relate to achievement?

2. Did the teachers in the treatment group actually implement the behaviors described in the instructional model?

Generally, the findings supported many (but not all) principles of the instructional model that were based on past process-product research. Also, many (not all) of the principles were implemented by the treatment teachers at rates significantly above the base rates of the control teachers. Overall, the achievement of the treatment classrooms was significantly greater than that of the control classrooms. These data are reported in Anderson, Evertson, and Brophy (Note 5).

Rationale for Analyses Reported in This Paper

The questions addressed in this paper are related to the second primary question of the study. They ask how different lesson contexts influenced the types of academic contacts with individuals, and how the treatment interacted with these context effects.

When the observation system was being developed and piloted, it was noted that the teachers' behaviors depended a great deal on the type of lesson. This was certainly not unexpected. In fact, we had anticipated this by telling the teachers that certain behaviors described by the principles would be most useful during fast-paced or slow-paced lessons. The treatment teachers had been asked to use their best judgment about what behaviors were appropriate at different times, but to attempt to follow the instructional model as closely as they could.

However, because such variations were expected, the lesson context in which each interaction occurred was coded. Later analyses could then identify relationships that were context-specific and those that were more general. This plan was in keeping with an objective of the programmatic research conducted by the COET Program: to investigate as closely as possible the particulars of effective teaching principles. It was also prompted by much recent literature that emphasizes the importance of context in research on teaching (e.g., Dunkin and Biddle, 1974). Although context is often defined in more general terms (e.g., SES, age groups, or instructional settings such as open vs. self-contained classrooms), this study presented the opportunity to examine context in more detail within a single setting (first grade reading groups).

Five lesson contexts were identified as representing the range most likely to occur during first grade reading groups:

1. Slow-paced questioning and answering without individual materials provided to students (QA)

2. Workbook or worksheet activities (WB)

3. Fast-paced drill

4. Reading of new material from the basal textbooks (BR)

5. Rereading of material already covered in the basal textbooks.

These five categories reflected differences in pacing and use of materials that could be expected to influence teachers' methods of selection, questioning, and feedback. For example, a teacher might wish to maintain a rapid pace during a drill or oral reading, and so might be less likely to try to elicit an improved response following errors in these contexts.

After tabulating the data for the entire year, context 3 (Drill) and context 5 (Rereading of old material) were dropped from most analyses involving separate contexts because they did not occur very often. Indeed, many teachers never used them, making comparisons among teachers impossible for these contexts. (However, data collected in these contexts went into total scores for all teachers and were used in other analyses.)

Two questions regarding contextual effects in the data are addressed in this paper and in the technical report:

1. Are individual teachers stable in their use of certain techniques across contexts? That is, can a teacher's relative standing on use of a behavior in one lesson context be predicted from knowledge of her relative standing on that behavior in a different context? Are some types of teaching behaviors highly stable and therefore as reflective of individual teacher style as of the influence of lesson contexts?

2. When all teachers are considered together as a group, how did lesson context influence the frequency with which certain behaviors appeared? How did treatment group membership interact with context in determining occurrence of those behaviors?

Stability of teacher behaviors at two different points in time has been the subject of much recent concern among methodologists who want to insure reliable instrumentation that will yield generalizable findings (e.g., see Shavelson and Dempsey-Atwood, 1976). However, the source of instability has become an important issue in its own right to researchers who recognize the importance of context effects. There are times when instability is expected, and when it probably reflects appropriate teaching practice. That is, it may be in response to factors such as lesson pace, differential student needs, and management needs in different settings. (An examination of such factors at the junior high level is reported in Evertson, Anderson, Edgar, Minter, and Brophy, Note 6.)

Therefore, this paper examines stability of teacher behavior for the purpose of determining contextual effects on that behavior. In addition to being an important question in any study, it was of particular importance to this study because of its experimental nature. The original purpose of the study was to change teachers' behavior, and it was moderately successful in doing so. However, it is important to know if lesson contexts chosen by the teachers were as important in influencing their behaviors as the treatment. Such knowledge has a dual purpose: gaining information about the classroom processes

involved, and also refining future treatment models to reflect realistic constraints on teachers' choices of techniques. Because the teachers were told to use their best judgment in implementing the treatment, contextual effects might represent important exceptions to general instructional principles. If the results of educational research are to be useful to practitioners, knowledge of these exceptions is as important as discovery of the rules.

Data Analyses

The coding system used in the study yielded frequencies for several categories of behaviors, such as the number of times the teacher used patterned turns, and the number of times she followed an incorrect answer with a clue. These frequencies were summed for each teacher within each lesson context over all observations, and used to compute two types of scores:

1. Rates (absolute frequencies of occurrence, standardized by the amount of observed time, such as the "rate of response opportunities per minute")

2. Proportions (relative frequencies computed by dividing the number of times an event occurred by the number of times it could have occurred, such as "the proportion of all response opportunities which included volunteer selection" and "the proportion of all incorrect answers which were responded to with feedback in the form of clues")

Over 500 variables were created from the coding system categories. Each teacher, therefore, had data for each variable in each context. Analyses were performed with these data to address the two questions

described in the previous section:

1. How stable are teacher behaviors across lesson contexts? Correlational analyses of each variable were performed for each possible pair of contexts. For example, to determine the stability of a given variable between context 1 (QA) and 2 (WB), each teacher's (N = 23) set of scores on that variable was entered into analyses. Each variable was also examined in this way for contexts 1 (QA) and 4 (BR) and for 2 (WB) and 4 (BR), yielding three correlation coefficients for each variable. Significant correlations ($p \leq .05$) were interpreted as indications of stability; that is, the frequency of the behavior was affected by individual teacher effects in addition to, or instead of, other effects.

2. What is the effect of context on occurrence, and how does treatment group membership interact with this? There were two groups of 10 teachers each. A two-way (2x3) analysis of variance was performed on scores for each variable. The factors were group membership (treatment vs. control) and context (1-QA, 2-WB, or 4-BR). Main and interaction effects were examined in a repeated-measures design, where treatment group membership was considered a between-group effect while context was a within-group effect.

Results

Before presenting results of the analyses, important terms will be reviewed. The three contexts to be examined are:

1. Slow-paced questioning and answering without individual materials provided to students (QA). In this context, the most common

activity was the teacher presenting a question to a student, receiving a short answer, and providing feedback. The students' only avenue for response was answering the teacher's questions orally. They were not making a written response on anything, and they were not reading in their basal texts. The teacher may or may not have been using other instructional materials with the group as a whole (such as charts or holding up a book). Teachers used this context an average of 25% of the time (relative to the other four contexts).

2. Workbook or worksheet activities (WB). The most common activity in this context was for the teacher to present directions and then have the students go through an exercise for which they wrote answers on their separate workbooks or worksheets. Therefore, students were practicing skills and making individual responses that were not coded because they were not oral interactions with the teacher. Often in this context, the teachers would have private interactions with individual students as they finished their work. These were not coded either, because they were not audible to the observer or the other students. This context was similar to what might occur during a regular seatwork session, except that it occurred within the small group setting. Teachers used this context an average of 31% of the time (relative to the other four contexts).

4. Reading of new material from the basal textbooks (BR). This context was noted whenever the lesson activity centered around reading and/or discussing a story from the basal text which had not been previously covered by the group. Most typical activities in this

context were listening to students read aloud and asking comprehension questions about the material. This context was used an average of 38% of the time (relative to the other four contexts).

Two other terms are important to understand: turn interactions and nonturn interactions. All public academic interactions between a student and the teacher were classified as occurring within a reading turn or outside of a reading turn (or "nonturn"). A reading turn was defined as a request made to the child to read a series of words, and could refer to a list of several vocabulary words, one sentence, or a paragraph in the reader. Nonturn interactions involved reading single words, and then receiving feedback on each of them, or answering other questions one at a time. Within a reading turn (decoding of a series of words in any context), the observer noted something only when interactions occurred with the teacher. This usually followed errors made by the student. For nonturn interactions, the observer noted something about every single question and answer, whether correct or incorrect. Therefore, the initiation of most interactions in each setting was for different purposes (i.e., correcting errors during reading turns, but asking questions and responding to correct answers in addition to correcting errors in nonturn interactions).

Although most reading turns occurred in context 4 (BR), it was possible for turns to be recorded in contexts 1 (QA) and 2 (WB). In the different contexts, turns usually meant different things. Reading turns in context 4 (BR) involved reading stories in the basal, and were usually several sentences long. Reading turns in contexts 1 (QA)

and 2 (WB) were more likely to involve reading a list of several unconnected words, or reading a sentence or two directly related to the skill lesson.

Likewise, nonturn interactions usually meant different things in the three contexts. Nonturn interactions in contexts 1 (QA) and 2 (WB) were usually questions about skills involved in decoding words. Nonturn questions in context 4 (BR) were more likely to be comprehension questions about the stories being read.

In summary, turn and nonturn interactions could occur in any context, but had different meanings depending on the context. For all variables derived from the coding system, distinctions were made between turn and nonturn interactions. A total variable was also computed which summed the two to describe all such interactions between the teacher and an individual child.

Another important distinction to remember is between reading and nonreading questions. Reading questions required the child to decode a word or words, or apply skills related to this process. Nonreading questions involved comprehension, fact, or opinion questions about the content of the lesson. Both types of questions could be coded in any context for either turn or nonturn interactions. However, turn interactions almost exclusively involved reading questions.

Results are reported for clusters of variables describing principles in the instructional model. The results are described in more detail with full tables in a technical report to be released shortly (Anderson et al., Note 1).

Variables Describing Distribution of Individual Response Opportunities

Principle 7 in the instructional model recommended that teachers give individual students many opportunities to interact with them regarding academic skills, and that group responses therefore be minimized. Variables which evaluated the use of this principle included the rate of academic interactions (or response opportuniites) per minute, as 1) total interactions, 2) those occurring during reading turns, 3) nonturn interactions, and 4) the number of reading turns offered per minute.

As expected, these variables were subject to a treatment effect, which was especially evident for nonturn interactions. (Treatment teachers had a higher rate than control teachers.) They also demonstrated contextual differences such that there were more interactions in contexts 1 (QA) and 4 (BR) and fewer in context 2 (WB). This was expected, given the definition of the workbook context. There were more reading turns and more reading turn interactions during context 4 (BR). These results were expected and serve to validate the accurate perception of the different contexts.

There were some interactions present between context and treatment such that the treatment effect (more response opportunities, at least in nonturn interactions) was stronger in contexts 1 (QA) and 4 (BR). That is, the treatment group had more interactions per minute than the control group in these two contexts, but there were no differences between the two groups in context 2 (WB). Again, this seems reasonable, considering that oral interactions were the only

way to give practice and feedback to students in contexts 1 (QA) and 4 (BR), by definition, but this was not the case in context 2 (WB).

Similarly, the correlation coefficients for this set of variables showed moderate stability between contexts 1 (QA) and 4 (BR) for total and nonturn interactions, but less stability for the use of reading turns. This implies that teachers' use of turns in context 4 (BR) does not predict whether they will use reading turns in contexts 1 (QA) or 2 (WB). This suggests that the purpose of turns may be different in the three contexts, which was expected.

The most important implication of the stability between contexts 1 (QA) and 4 (BR) for nonturn interactions indicates that teachers who tend to ask a lot of individual questions in one context will also do so in the other, regardless of the number of reading turns involved. The absolute frequency of such interactions will depend upon the context itself [context 1 (QA) had higher means than context 4 (BR)], but teacher tendencies are also important.

There was no stability demonstrated between context 2 (WB) and the others. This was not surprising and further supports the supposition that public oral interactions were not as important in context 2 (WB).

These results suggest that a variable such as "academic interactions per minute" will be subject to many influences, such as teacher style, context effects, presence of turn vs. nonturn interactions, and presence of a treatment from an external source.

Variables Describing Types of Selection Used in Distributing Response Opportunities

Principles 8, 10, and 11 in the instructional model emphasized that teachers should rely primarily on systematic selection of students for practice of important skills. It was suggested that teachers use ordered turns (going around the group in turn) to select students to answer, and that this should take the place of random selection, especially use of volunteers and call outs. The rationale was that teachers who relied too strongly on volunteers and students who called out were more likely to fail to provide adequate practice for quieter, more reticent students. Therefore, it was expected that the treatment teachers would use ordered turns more than the control teachers.

A treatment effect was found because there was very strong implementation of these principles by the treatment teachers. The treatment effect was maintained across all contexts, and there were very few significant differences demonstrating context effects. Those results that were significant indicated a slight tendency for teachers to use nonvolunteer and preselections in context 2 (WB) more than in other contexts. Since these types of selections depended on the teacher calling on a student who had not volunteered to answer, it might be that in context 2 (WB), where oral interactions were less prevalent, the teachers used questions more as a management strategy to get and maintain attention. This would account for the more frequent selection of students who had not indicated a desire to answer.

There was a significant interaction between context and treatment in the selection of students who called out answers to nonturn questions. Overall, control teachers had a higher rate of call outs than treatment teachers, representing implementation by the treatment teachers of principle 11. However, there was a larger difference between the treatment groups in context 4 (BR) than in the other contexts. Nonturn questions in context 4 (BR) were likely to be questions about the story itself, whereas nonturn questions in contexts 1 (QA) and 2 (WB) were more likely to be about skills presented in the lesson. It might be that questions about the story in context 4 (BR) were more interesting to the students or were asked in a way that would encourage the kind of spontaneous participation that call outs represent. In any case, it appears that teachers who do not deliberately try to control call outs will have the most problems with them in context 4 (BR). It might also be that teachers find call outs less of a problem in context 4 (BR) than in the other contexts, due to the nature of the questions they ask. If so, teachers who were not deliberately trying to reduce call outs would allow more of them at these times.

There was relatively high stability across all contexts of use of the different types of selection, indicating that the frequency of these variables reflects teacher style as much or more than contextual effects.

Variables Describing Feedback Given to Incorrect Answers

Principles 17 through 19 encouraged the treatment teachers to use sustaining feedback to errors, rather than terminal feedback,

whenever possible, and to avoid asking other students for an answer after the first student had made a mistake or failed to respond. Sustaining feedback meant that the teacher would respond to an incorrect answer by staying with the student and allowing another response opportunity. Sustaining could take the form of repeating the question (thereby allowing more time with the original question), giving clues to simplify the question, or essentially giving the answer but in a way that allowed the student to make the final response. In contrast, terminal feedback involved giving the answer to the student. This could be done by the teacher, who then would move on to another question with another student. Terminal feedback could also include calling on another student for that answer or allowing another student to call out the answer. It was recognized in the instructional model that the teacher often would need to give the answer to the student, rather than using sustaining feedback, although calling on other students for the answer and allowing call outs were discouraged.

As expected, the treatment teachers did use more sustaining feedback than terminal feedback. Also, when they did use terminal feedback, it was more likely to be in the form of giving the answer to the student rather than calling on other students or accepting call outs. These results implied implementation of these principles by the treatment group. However, there also were important context effects.

Generally, the context differences for reading questions can be summarized by saying there was more use of terminal feedback to

errors in contexts 2 (WB) and 4 (BR) and less use of it, with a corresponding increase in sustaining feedback, in context 1 (QA). This is understandable when pacing differences are considered. Errors occurring in context 4 (BR) were most likely to involve missing a word within a reading turn. If the purpose of the lesson in context 4 (BR) was for the students to read and comprehend a passage, stopping to give sustaining feedback to most errors could seriously disrupt the pace and impede comprehension. However, this was less likely to be the case in context 1 (QA). Indeed, if the purpose of context 1 (QA) was to teach the process of applying reading skills, and if the method of doing this was to focus on single questions, sustaining feedback might have been very useful, because it involved reinforcing the process of applying the skill by breaking it down into its component parts.

This pattern of results was apparent when reading questions (decoding words) were examined, but it did not hold up for nonreading questions (questions about comprehension of facts or about opinions). In fact, it was reversed, with more sustaining feedback to incorrect nonreading questions in context 4 (BR) and less in context 1 (QA).

These results may represent differences in the quality of nonreading questions in the different contexts. In context 4 (BR), most nonreading questions relate more directly to the purpose of the context: to comprehend the meaning of what is being read. Therefore, extensive sustaining feedback that demonstrates the comprehension process is appropriate (when it occurs outside of reading turns

and thus is not as likely to disrupt the pace).

However, in contexts 1 (QA) and 2 (WB) such nonreading questions are less likely to be important, because the purpose of these contexts was primarily to offer short questions about skills involved in decoding words, and this is probably done most efficiently through reading questions.

In short, sustaining feedback was used in a way that was most appropriate to the purpose of the activities conducted in that context.

Once again, there is moderate to high stability across contexts for many of these variables, indicating that in addition to the context and treatment effects, teachers' use of these behaviors is influenced by their own styles and preferences. The absolute rate of use of behaviors such as giving clues or giving the answer probably depends upon the demands of the setting, but the relative rate of use (compared to other teachers) is fairly stable.

In addition to examining the sheer frequency of sustaining feedback following errors, we also coded the success of each such attempt to produce an improved answer. No strong treatment effects were found here, although context effects were present. There was a slightly higher percentage of improved answers in contexts 2 (WB) and 4 (BR) than 1 (QA). This implies that, even though there was less sustaining feedback used overall in context 4 (BR), the teachers were relatively more successful with it than they were in context 1 (QA).

Perhaps teachers only used sustaining feedback in context 4 (BR) when they were sure of its success, and therefore were sure that the

pace would not be disrupted. However, this effect may be due to the fact that most sustaining feedback in context 4 (BR) followed nonreading questions, where improved responses might be easier to obtain.

Support for this interpretation is provided by a significant interaction for the variable "proportion of clue feedback which was successful." (Giving clues was one type of sustaining feedback.) Although neither main effect was significant, a context-treatment interaction showed that the treatment teachers were more likely to be successful with clue feedback in contexts 1 (QA) and 2 (WB) than were control teachers (for nonturn interactions only). However, in context 4 (BR), the treatment and control teachers were similar in their rates of success (in fact, the control teachers were slightly more successful, although not significantly so). These results suggest that the treatment made the treatment teachers more successful in their use of clues in contexts 1 (QA) and 2 (WB) for nonturn questions; however, in context 4 (BR), the control teachers were already as successful as the treatment teachers in clueing nonturn questions. Again, this might reflect the difference between types of nonturn questions asked in context 4 (BR) and those asked in the first two contexts. That is, perhaps clues given in response to failures on comprehension or fact questions are easier to use successfully than clues following failures on reading skill questions. If this is true, the effect of the treatment was to increase the treatment teachers' abilities in the more difficult situation.

A few variables describing the results of sustaining feedback showed moderate stability across teachers, but there was no general pattern of stability. Therefore, the teachers' ability to use sustaining feedback to improve responses is only partly due to teacher characteristics.

Variables Describing Responses to Correct Answers

Principle 20 in the instructional model suggested that teachers acknowledge correct answers by giving some kind of feedback, and be sure that all students heard the answer. Therefore, it was expected that treatment teachers would be more likely to provide emphasis to correct answers by repeating them or having them repeated, and would be less likely to omit giving feedback to correct answers. These treatment differences were not found. However, some context effects were apparent.

There was a higher frequency of omission of feedback to correct answers in context 4 (BR). This makes sense considering that teachers who wish to maintain a fairly rapid pace might be less likely to give feedback to correct answers, especially if they thought that students knew implicitly that the answer was correct. This could be expected during reading turns.

Context 2 (WB) almost always had the highest proportion of response opportunities that included emphasis. This might reflect the fact that interactions in this context involved both listening and finding information on the page, and teachers may have felt that emphasis (i.e., repeating the answer) was more appropriate here to

help students coordinate that information. In contrast, it is not surprising that there is less emphasis given in context 4 (BR), because of pacing requirements.

There was moderately high stability for variables describing the use of emphasis feedback, while very low stability was found for variables describing failure to give feedback. Omission of feedback, however, was relatively infrequent compared to the other feedback possibilities, and this may account for the instability.

Variables Describing Use of Praise and Criticism

Principles 21 and 22 dealt with the use of praise and criticism as feedback to answers. Principle 21 recommended that praise be used in moderation, and that it be as specific as possible. Principle 22 recommended that criticism could be used appropriately, but that it should be as specific as possible about desirable alternatives. Therefore, it was expected that treatment teachers would have a lower use of total praise, but a higher use of specific praise, as well as a higher use of specific criticism. These expectations were partially supported. There were also several context effects and some interactions with treatment.

Generally, there was a higher use of praise in contexts 1 (QA) and 2 (WB) than in context 4 (BR). However, for reading turn response opportunities, context 2 (WB) had the lowest level of use of praise.

Some interactions were present which suggested that the treatment effect (less praise by treatment teachers) was strongest in context 1 (QA), where there were greater differences in frequency of praise.

However, the treatment effect of higher proportions of specific praise was strongest in context 4 (BR).

Because the use of praise was generally higher in context 1 (QA) to begin with, it makes sense that the treatment could make more difference here (i.e., there was more room for change).

There were no context effects or interaction effects for the use of criticism.

Stability coefficients were fairly high for the use of praise and criticism, although for praise this was apparent only for total and nonturn interactions, probably due to a very low frequency of occurrence in turns.

Summary and Discussion

The analyses reported in this paper were undertaken to investigate relationships between certain teacher behaviors and the contexts in which they occurred. Behaviors of interest were those describing teacher selection of and feedback to response opportunities, as well as the overall level of response opportunities. The contexts of interest were: 1. Questioning and answering (QA), 2. Workbook activities (WB), and 4. Reading from basal texts (BR). Context and treatment effects were examined by means of a 2x3 analysis of variance (repeated measures design) of each of the 500+ variables created from the coding system. Teacher effects were examined by means of stability analyses (to determine how well each teacher's behavior in one context could be predicted from that behavior in another context). Results indicated moderately high stability across contexts for most groups of

variables, although some were more stable than others.

The main effects for treatment were generally those expected, and are discussed in more detail elsewhere (Anderson et al., Notes 5 and 7). Context effects and context-treatment interactions were demonstrated to some extent in all clusters of variables. The most complex set of findings were for the feedback variables.

The implications of these results are perhaps most important for researchers who design measures to describe classroom processes, and who then must rely on these measures to provide information about relationships among the processes. It is apparent that the prediction of teacher behavior is not a simple matter, and that it is dependent on many factors other than generalized teacher traits. Context plays an important role, one that is most easily understood by examining the purposes of various lessons, the selection of tasks which are present within them, and the pacing requirements of those tasks. It is very likely that relationships between what teachers do and the learning of their students also will vary according to these setting characteristics.

Stability of teacher behavior across contexts was more evident in this study than it was in earlier investigations with similar variables (Brophy, Evertson, Crawford, King, and Senior, 1975) and in the studies reviewed by Shavelson and Dempsey-Atwood (1976). However, bear in mind that this study involved fine-grained distinctions among subparts of what already is a circumscribed classroom situation (reading groups in first grade) that ordinarily would be considered a very specific context in its own right. Further, even under these conditions, systematic

and interpretable context effects on process variables were observed. This reinforces once again the need to move away from simple notions such as generic teaching competencies toward more specific conceptualizations that take into account such context variables as the goals of the activity and the number and types of students.

Reference Notes

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